

Notice of Allowability	Application No.	Applicant(s)	
	09/747,008	PARNELL, TODD C.	
	Examiner	Art Unit	
	Michael B. Holmes	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to October 26, 2004.
2. ☒ The allowed claim(s) is/are 1-43.
3. ☒ The drawings filed on 16 April 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|



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Examiner's Detailed Office Action

1. Claims 1-43 are allowed.

Examiner's Amendment

In the Claims:

2. In a telephone conference (Friday, January 21, 2005), Kent B. Chambers, Attorney Reg. No. 38,839 authorized the Examiner to enumerate the claims.

1. A method of providing an interface to a database, wherein the database includes a plurality of nonhierarchically organized classifiers of data and data linked to at least one of the classifiers, the method comprising:

organizing a set of the plurality of nonhierarchically organized classifiers into a first hierarchical data structure according to a view established for a first client; presenting data to the first client according the first hierarchical data structure; organizing a second set of the plurality of classifiers into a second hierarchical data structure according to a view established for a second client; anal presenting data to the second client according the second hierarchical data structure.

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2. The method as recited in Claim 1, wherein the first hierarchical data structure is a file system directory tree structure.
3. The method as recited in Claim 1, wherein the set of the plurality of classifiers contains less than the plurality of classifiers.
4. The method as recited in Claim 1, wherein the first hierarchical data structure is a file system directory tree structure according to NFS.
5. A method of presenting data in a database, wherein the database includes nonhierarchically organized classifiers(IM) of data and data linked to at least one of classifiers(1:M), wherein "M" is any positive number including 1, the method comprising:
creating a view for a client, wherein the view organizes a set of the non-hierarchically organized classifiers(1:M) into a hierarchical data structure according to characteristics of the client;
presenting data to the client according to the hierarchical data structure.
6. The method as recited in Claim 5, wherein the hierarchical data structure is a file system directory tree structure.
7. The method as recited in Claim 5, wherein the database includes N classifiers and N is a number greater than M.
8. The method as recited in Claim 5, wherein the hierarchical data structure is a file system directory tree structure according to NFS.

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9. A method of presenting data in a database in a hierarchical data structure, wherein classifiers that classify the data are nonhierarchically organized, the method comprising: receiving a request from a client; translating the request into a database query for data classified by the nonhierarchically organized classifiers; producing a set of data according to the database query, the set of data organized in a hierarchical data structure; and presenting the set of data to the client.

10. (Original) The method as recited in Claim 9, wherein translating the request into a database query comprises:

looking up the file handle in an ILocation table to obtain an ILocation; and formulating a database query to query a defined set of data, the query formulated from the ILocation.

11. (Original) The method as recited in Claim 10, wherein Formulating a database query to query a defined set of data comprises:

determining if the ILocation contains bound classifiers, each bound classifier being bound by a constraining value; if the ILocation contains bound classifiers, adding a clause to the database query for each bound classifier in the ILocation, each clause formulated to eliminate data from the defined set of data that has a defined value corresponding to the constraining value of the bound classifier; determining if the ILocation contains unbound classifiers; if the ILocation contains unbound classifiers, adding a first clause to the database query for the first unbound classifier, the clause formulated to produce a listing of distinct values set for the defined set of data, the distinct values corresponding to the first unbound classifier, and further, adding a second clause to the database query for the first unbound classifier, the second clause

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formulated to select data from the set of defined data that has the value of the first unbound classifier riot set to a value; and if the ILocation does not contain unbound classifiers, adding a clause to the database query that selects all data in the defined set of data.

12. The method as recited in Claim 10, wherein formulating a database query to query a defined set of data includes formulating an SQL query, comprising:
determining if the ILocation contains bound classifiers, each bound classifier being bound by a constraining value; if the ILocation contains bound classifiers, adding a WHERE clause with a condition to the SQL query for each bound classifier, wherein the condition of each WHERE clause is set to the constraining value corresponding to each bound classifier; determining if the ILocation contains unbound classifiers; if the ILocation contains unbound classifiers, adding a SELECT DISTINCT clause to the SQL query for the first unbound classifier and further adding a WHERE, clause with a condition to the SQL query for the first unbound classifier, wherein the condition of the WHERE clause is set to NULL; and if the ILocation does not contain unbound classifiers, adding a SELECT clause to the SQL query.

13. The method as recited in Claim 9, wherein producing a result using the database query, the result formatted according to the NFS protocol, comprises:
querying the database with the database query that produces ILocations and files; translating the ILocations into unique tile handles; and storing the mapping from the unique file handles to the ILocations in an ILocation table.

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14. The method as recited in Claim 13, wherein translating the Ilocations into unique file handles comprises:

translating the ILocations into single byte arrays; cryptographically hashing the single byte arrays into small byte arrays; and padding the small byte arrays with bits to make the small byte arrays the proper length of a file handle according to the NFS protocol.

15. The method as recited in Claim 9, further comprising providing a file handle to a client upon an initial access request from the client, the file handle corresponding to a view in the database, wherein the view defines an amount of data in the database that is observable by the client.

16. The method as recited in Claim 15, wherein the view defines a directory structure observed by the client.

17. A data processing system comprising:

a monitor; a processor coupled to the display; and a memory coupled to the processor, the memory including instructions to cause the processor to graphically display a hierarchy of data classification information, wherein the data classification information represents classifiers of data, the classifiers are nonhierarchically organized in at least one database, the data is contained in the at least one database, the data is at least a portion of all data contained in the at least one database, and each datum is classified by at least one nonhierarchically organized classifier.

18. The data processing system as in claim 17 wherein the hierarchy is selectable.

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19. The data processing system as in claim 17 wherein the display is in the form of a directory tree-like display.

20. The data processing system as in claim 17 wherein the database is remotely disposed from a client system, the further comprising:
a graphical display of the data classification information on a display of the client system.

21. The data processing system as in claim 17 further comprising:
an active link associated with each classifier represented by the data classification information that allows display of the data that is associated with each classifier.

22. A method of providing hierarchical data classification information, the method comprising:
receiving a request for hierarchical data classification information, wherein the data classification information represents classifiers of data, the classifiers are nonhierarchically organized in at least one database, the data is contained in the at least one database, the data is at least a portion of all data contained in the at least one database, and each datum is classified by at least one classifier; generating the hierarchical database classification information; and providing the hierarchical database classification information.

23. The method of providing hierarchical data classification information as in claim 22, wherein generating the hierarchical database classification information comprises:
translating the request into a database query; and producing a set of data according to the database query, the set of data organized in a, hierarchical data structure.

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24. The method of providing hierarchical data classification information as in claim 23, wherein translating the request into a database query comprises:
looking up a file handle in an ILocation table to obtain an ILocation; and formulating a database query to query a defined set of data, the query formulated from the Location.

25. The method of providing hierarchical data classification information as in claim 22, wherein providing the hierarchical database classification information further comprises:
providing the hierarchical database classification information in the form of a directory tree-like structure.

26. The method of providing hierarchical data classification information as in claim 22, wherein providing the hierarchical database classification information further comprises:
providing the hierarchical database classification information from a server system; the method further comprising: displaying the hierarchical database classification information with a client system.

27. A computer readable medium having stored thereon a hierarchical data structure of classifiers of a database, wherein the classifiers include nonhierarchically organized classifiers(1:M) of data and data linked to the at least one of the classifiers(1:M), wherein M is any positive number including 1, the hierarchical data structure generated by the method of creating a view for a client, wherein the view organizes a set of the nonhierarchically organized classifiers(1:M) into a hierarchical data structure according to characteristics of the client; and organizing data into the hierarchical data structure according to the set of the classifiers(1:M).

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28. The computer readable medium as recited in Claim 27, wherein the hierarchical data structure is a file system directory tree structure.
29. The computer readable medium as recited in Claim 27, wherein the database includes N classifiers and N is a number greater than M.
30. The computer readable medium as recited in Claim 27, wherein the hierarchical data structure is a file system directory tree structure according to NPS.
31. A computer readable medium for providing an interface to a database, wherein the database includes nonhierarchically organized classifiers(1:M) of data and data linked to at least one of classifiers(1:M), wherein "M" is any positive number including 1, the computer readable medium comprising a set of instructions for enabling a computer system to:
organize a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client; present data to the first client according the first hierarchical data structure; organize a second set of the nonhierarchically organized classifiers(1:M) into a second hierarchical data structure according to a view established for a second client; and present data to the second client according the second hierarchical data structure.
32. The computer readable medium as recited in Claim 31, wherein the first hierarchical data structure is a file system directory tree structure.
33. The computer readable medium as recited in Claim. 31, wherein the database includes N classifiers and N is a number greater than M.

34. The computer readable medium as recited in Claim 31, wherein the hierarchical data structure is a file system directory tree structure according to NFS.

35. The computer readable medium of Claim 31 wherein the computer readable medium is selected from the group comprising: a hard disk drive, optical drive, floppy disk drive, compact disk, or electronic signals representing the instructions.

36. An apparatus for providing an interface to a database, wherein the database includes nonhierarchically organized classifiers(1:M) of data and data linked to at least one of the classifiers(1:M), wherein "M" is any positive number including 1, the apparatus comprising: means for organizing a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client; means for presenting data to the first client according the first hierarchical data structure; means for organizing a second set of the nonhierarchically organized classifiers(1:M) into a second hierarchical data structure according to a view established for a second client; and means for presenting data to the second client according the second hierarchical data structure.

37. The computer readable medium as recited in Claim 36, wherein the first hierarchical data structure is a file system directory tree structure.

38. The computer readable medium as recited in Claim 36, wherein the database includes N classifiers and N is a number greater than M.

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39. The computer readable medium as recited in Claim 36, wherein the hierarchical data structure is a file system directory tree structure according to NFS.

40. A system for providing an interface to a database, wherein the database includes nonhierarchically organized classifiers(1:M) of data and data linked to at least one of the classifiers(1:M), wherein "M" is any positive number including 1, the system comprising: a data processing system having a memory coupled to at least one processor, wherein the memory comprises instructions far enabling the data processing system to: organize a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client; present data to the first client according the first hierarchical data structure; organize a second set of the nonhierarchically organized classifiers(1:M) into a second hierarchical data structure according to a view established for a second client; and present data to the second client according the second hierarchical data structure.

41. The computer readable medium as recited in Claim 40, wherein the first hierarchical data structure is a file system directory tree structure.

42. The computer readable medium as recited in Claim 40, wherein the database includes N classifiers and N is a number greater than M.

43. The computer readable medium as recited in Claim 40, wherein the hierarchical data structure is a file system directory tree structure according to NFS.

REASONS FOR ALLOWANCE

3. The following is an Examiner's statement for reasons for allowance:

4. The closest prior art *Horvitz et al.* (USPN 6,161,130) & *Bowman-Amuah* (USPN 6,332,163) do not teach or render obvious applicant's claimed invention. In particular, as pointed out below, the prior art lacks certain features and the combination as specified in the respective claims.

5. With regards to claim 1 *Horvitz et al.* & *Bowman-Amuah* do not disclose “... *organizing a set of the plurality of nonhierarchically organized classifiers into a first hierarchical data structure according to a view established for a first client; presenting data to the first client according the first hierarchical data structure; organizing a second set of the plurality of classifiers into a second hierarchical data structure according to a view established for a second client; anal presenting data to the second client according the second hierarchical data structure.*”

6. With regards to claim 5 *Horvitz et al.* & *Bowman-Amuah* do not disclose “... *creating a view for a client, wherein the view organizes a set of the non-hierarchically organized classifiers(1:M) into a hierarchical data structure according to characteristics of the client; presenting data to the client according to the hierarchical data structure.*”

7. With regards to claim 9 *Horvitz et al.* & *Bowman-Amuah* do not disclose “... *receiving a request from a client; translating the request into a database query for data classified by the nonhierarchically organized classifiers; producing a set of data according to the database query, the set of data organized in a hierarchical data structure; and presenting the set of data to*

the client.”

8. With regards to claim 17 *Horvitz et al. & Bowman-Amuah* do not disclose “ ... *the data is contained in the at least one database, the data is at least a portion of all data contained in the at least one database, and each datum is classified by at least one nonhierarchically organized classifier.*”

9. With regards to claim 22 *Horvitz et al. & Bowman-Amuah* do not disclose “ ... *receiving a request for hierarchical data classification information, wherein the data classification information represents classifiers of data, the classifiers are nonhierarchically organized in at least one database, the data is contained in the at least one database, the data is at least a portion of all data contained in the at least one database, and each datum is classified by at least one classifier; generating the hierarchical database classification information; and providing the hierarchical database classification information.*”

10. With regards to claim 27 *Horvitz et al. & Bowman-Amuah* do not disclose “ ... *wherein the classifiers include nonhierarchically organized classifiers(1:M) of data and data linked to the at least one of the classifiers(1:M), wherein M is any positive number including 1, the hierarchical data structure generated by the method of creating a view for a client, wherein the view organizes a set of the nonhierarchically organized classifiers(l :M) into a hierarchical data structure according to characteristics of the client; and organizing data into the hierarchical data structure according to the set of the classifiers(1:M).*”

11. With regards to claim 31 *Horvitz et al. & Bowman-Amuah* do not disclose “ ... *organize a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client; present data to the first client according the first hierarchical data structure; organize a second set of the nonhierarchically organized classifiers(1:M) into a second hierarchical data structure according to a view established for a second client; and present data to the second client according the second hierarchical data structure.*”

12. With regards to claim 36 *Horvitz et al. & Bowman-Amuah* do not disclose “ ... *means for organizing a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client; means for presenting data to the first client according the first hierarchical data structure; means for organizing a second set of the nonhierarchically organized classifiers(1:M) into a second hierarchical data structure according to a view established for a second client; and means for presenting data to the second client according the second hierarchical data structure.*”

13. With regards to claim 40 *Horvitz et al. & Bowman-Amuah* do not disclose “ ... *organize a set of the nonhierarchically organized classifiers(1:M) into a first hierarchical data structure according to a view established for a first client; present data to the first client according the first hierarchical data structure; organize a second set of the nonhierarchically organized classifiers(1:M) into a second hierarchical data structure according to a view established for a second client; and present data to the second client according the second hierarchical data structure.*”

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Correspondence Information

14. Any inquires concerning this communication or earlier communications from the examiner should be directed to **Michael B. Holmes**, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at **(571) 272-3686** or facsimile transmission **(571) 273-3686** or email Michael.holmesb@uspto.gov.

If attempts to reach the examiner are unsuccessful the **Examiner's Supervisor**, **Anthony Knight**, may be reached at **(571) 272-3687**.



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Thursday, January 20, 2005

MBH